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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/683,806	10/10/2003	Ross S. Dando	303.865US1	2161
21186	7590	08/07/2006		
SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A. P.O. BOX 2938 MINNEAPOLIS, MN 55402				
			EXAMINER FULLER, ERIC B	
			ART UNIT 1762	PAPER NUMBER

DATE MAILED: 08/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/683,806

Applicant(s)

DANDO ET AL.

Examiner

Eric B. Fuller

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-51 and 79-91 is/are pending in the application.
- 4a) Of the above claim(s) 26-51 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 and 79-91 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Arguments*

Applicant argues that Rose fails to teach setting the frequency in order to activate the gas. This is not found convincing. Rose explicitly teaches setting the frequency to excite the gas or to react other gases that become reactants (column 4, lines 22-26). This reads on the applicant's amended claims. Additionally, even without this explicit teaching, one of ordinary skill would understand that the wavelength of the laser must be set to a specific wavelength that is dependent on the constituents of the gas in order to heat the gas. The gas must absorb the energy of the laser in order to heat and this can only be done by matching the wavelength of the laser with the wavelength the atoms of the gas is capable of absorbing. The laser itself, being comprised of photon, does not "contain" the heat, as the applicant seems to believe in the arguments.

Applicant argues that Schachameyer fails to teach the added limitations of the laser decomposing the gas to create reactants. This is not found convincing. Column 4, lines 30-40, explicitly teaches that the gas is decomposed to form intermediates. These intermediates read on being reactants, as they react to form the coating.

Applicant argues that enhancements to a CVD process is not *per se* applicable to ALD. This arguments is not found convincing. Although the examiner agrees that not any and all improvements in CVD are applicable to ALD processes. Reducing energy demands by using a laser as the source of energy would be applicable to both ALD and

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CVD. Therefore, the modification would have been obvious and beneficial at the time the invention was made to a person having ordinary skill in the art.

Applicant's arguments have not been found convincing and the rejections of the previous Office Action have been maintained accordingly.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-8, 10, 11, 13-25, and 79-91 are rejected under 35 U.S.C. 102(b) as being anticipated by Rose (US 4,543,486).

Rose teaches a method of photolytic CVD in which the laser frequency is chosen so that it excites the reaction gases which then react and deposit on the substrate (column 4, lines 20-25). Since the frequency is chosen such that it excites the gas, this reads on the frequency being tuned to an absorption frequency of the gas precursor. Column 5, lines 20-60, and column 7, lines 3-32, read on the limitations of the dependent claims, including the raster scanning, laser array, and diode lasers.

Claims 1, 2, 5-11, 13, 16-19, and 79-91 are rejected under 35 U.S.C. 102(b) as being anticipated by Schachameyer et al. (US 4,940,505).

Schachameyer teaches a method of photolytic CVD in which the wavelength of the laser is chosen according to the adsorption peaks of the precursor gases (column 2, 30-35). Setting the wavelength is the same as setting the frequency, as the speed of light is constant. The abstract and column 3, lines 21-49, teach that specific bonds of the precursor is broken and this causes decomposition and deposition. All other limitations are taught in column 4, lines 30-61.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rose (US 4,543,486) in view of the applicant's admitted prior art.

Rose teaches the limitations above, but is silent to the method being used in an ALD process. However, the applicant admits on page 8, lines 7-13, that ALD is a widely known process that is a type of CVD process. To use photolytic laser of the CVD process taught by Rose in an ALD process would have been obvious at the time the invention was made to a person having ordinary skill in the art. By doing so, one would have a reasonable expectation of success and achieving the same benefits as taught in Rose, as the applicant has admitted that it is known that ALD is a type of CVD process

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and using a laser to reduce energy demands is a benefit applicable to both CVD and ALD.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schachameyer et al. (US 4,940,505) in view of the applicant's admitted prior art.

Schachameyer teaches the limitations above, but is silent to the method being used in an ALD process. However, the applicant admits on page 8, lines 7-13, that ALD is a widely known process that is a type of CVD process. To use photolytic laser of the CVD process taught by Rose in an ALD process would have been obvious at the time the invention was made to a person having ordinary skill in the art. By doing so, one would have a reasonable expectation of success and achieving the same benefits as taught in Schachameyer, as the applicant has admitted that it is known that ALD is a type of CVD process and using a laser to reduce energy demands is a benefit applicable to both CVD and ALD.

### ***Conclusion***

Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric B. Fuller whose telephone number is (571) 272-1420. The examiner can normally be reached on Mondays through Thursdays.

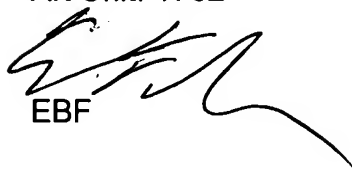
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Meeks, can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

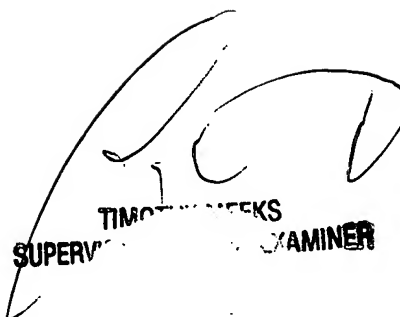
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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EBF

  
TIMOTHY WEEKS  
SUPERVISOR EXAMINER